

Emission Guide Update for Mobile and Stationary Sources at Air Force Installations

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UNITED STATES AIR FORCE IERA

Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations (Revised December 2003)

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January 2002

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UNITED STATES AIR FORCE IERA

Air Emissions Inventory Guidance Document for Stationary Sources at Air Force Installations (Revised December 2003)

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AECOM

Process

- Combine Sources
- Identify Source Categories
- Review References
- Identify Final Equation
- Update Source Guides
- Create Emissions Database
- Update Software Programs

Combine Sources

- Air Emissions Inventory Guidance Document for Mobile Sources at Air Force Installations
- Air Emissions Inventory Guidance Document for Stationary Sources at Air Force Installations
- Air Conformity Applicability Model (ACAM)
- Air Program Information Management System (APIMS)

Identify Source Categories

54 Stationary Sources

- Abrasive Blasting
- Fire Fighter Training
- Laboratory Chemicals
- Rocket Engine Testing
- Surface Coatings
- Welding

5 Mobile Sources

- Aerospace Ground Equipment (AGE)
- Aircraft Operations
- Internal Combustion Sources
- Purchased Power
- Vehicle Emissions

Review References

- Verify Availability of Each Source Reference for Review
- Research for New References

Identify Final Equation

- Review the Multiple Equations and Determine Which One(s) is the Most Appropriate
- Determine Equation Basis
 - Emission Factors
 - Material Balances
 - Both

Emission Factors

$$E = EF \times C \times (1 - ER/100)$$

- E = emissions
- EF = emission factor
- C = consumption
- ER = overall emission reduction efficiency of control device (%)
(ER = 0 if no control device is used)

Material Balance

- $E = (C - WM) \times (1 - ER/100)$
- $E = \sum E_{HAPi} + \sum E_{non-HAPi}$
- $E_{HAP} = E \times F_{HAP}$
 - E = emissions
 - C = consumption
 - WM = waste material
 - ER = overall emission reduction efficiency of control device (%)
(ER = 0 if no control device is used)
 - E_{HAPi} = emissions for a specific HAP
 - $E_{non-HAPi}$ = emissions for a specific pollutant that is not a HAP
 - F_{HAP} = fraction (%) of total emissions attributed to a specific HAP

Update Source Guides

- Update the Equations in the Two Source Guides as Necessary
- Update any Needed Text and Example Problems
- Update the Reference List to Include only the References Actually Utilized
- Remove Any Emission Factors

Create Emissions Database

- Emission Factors
 - Criteria Pollutants
 - Hazardous Air Pollutants (HAPs)
 - Greenhouse Gases (GHG)
- Each Emission Factor Will Include:
 - Source Category
 - Equation
 - Description
 - Reference

Update Software Programs

- ACAM and APIMS
 - New Source Categories
 - Equations
 - Emission Factors
- Program Correlations
 - Air Force Guides and Database
 - ✓ Source Categories
 - ✓ Methodologies
 - ✓ Emission Factors
 - ✓ Reporting Format

Reports

- Air Emissions Inventory (AEI) AFCEE Format
- Two Tables
 - Criteria Pollutant Emissions
 - ✓ Listed by Source Category, Tons/Yr and Percent of the Total Emissions
 - HAP Emissions
 - ✓ Listed by Source Category, Individual and Total HAPs, Lbs/Yr and Tons/Yr

Thank You

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